

Fig.1

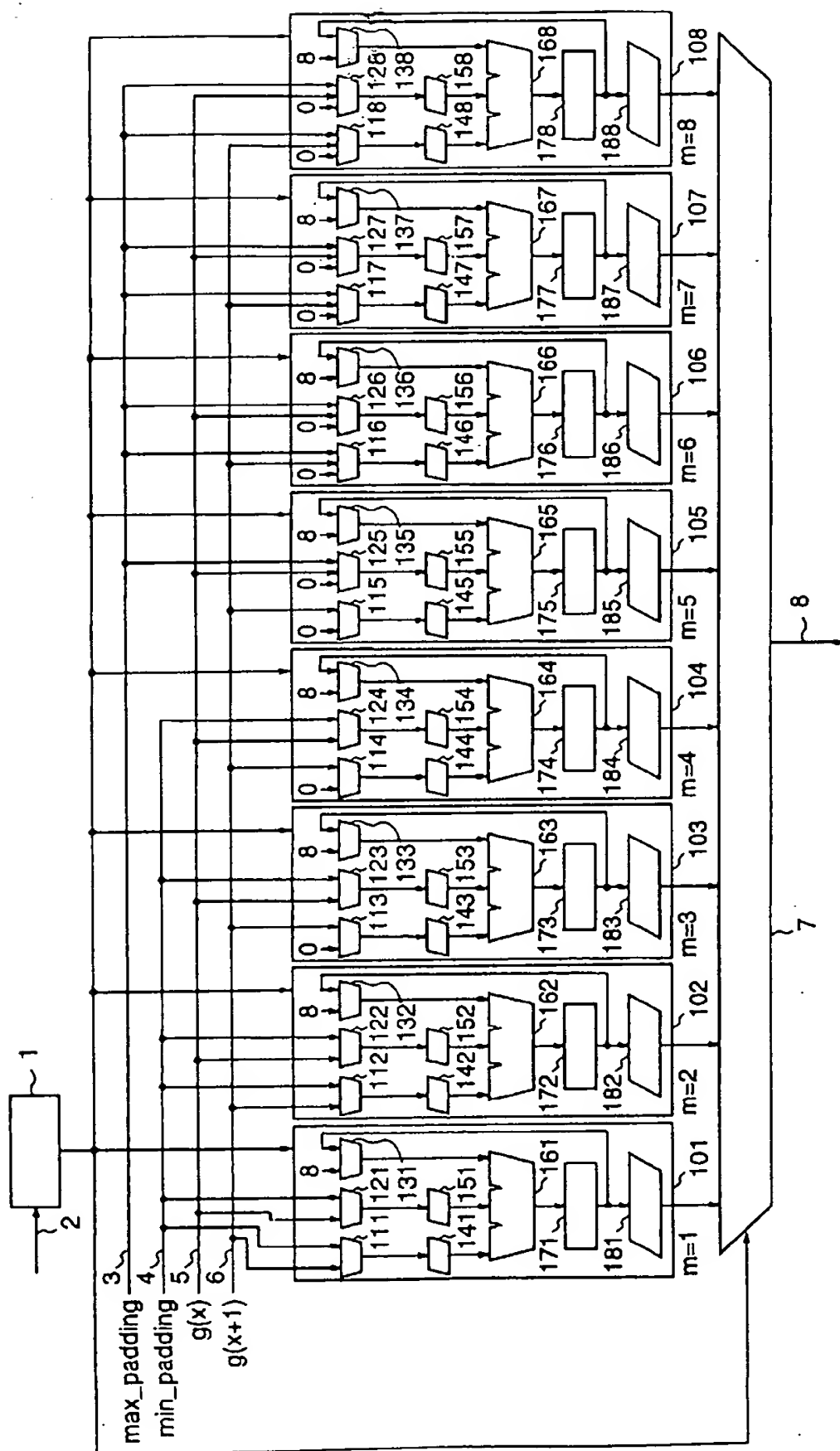


Fig.2

CNT	inputted register	stored data	m=1	m=2	m=3	m=4
0	AU AL CRU CRL	g(1) g(2) max_pad min_pad	\bullet \bullet $M=AU \ll 2$ $+AL \ll 1+8$	\bullet \bullet $N=AU \ll 1$ $+AL \ll 2+8$	\bullet \bullet $P=AU \ll 1$ $+AL \ll 1+8$	\bullet \bullet $Q=AU+AL \ll 1$ $+8$
1	AU AL CRU CRL	g(3) g(4) max_pad min_pad	\bullet \bullet $M=AU \ll 1$ $+AL+M$	\bullet \bullet $N=AU \ll 1$ $+AL \ll 1+N$	\bullet \bullet $P=AU \ll 2$ $+AL \ll 1+P$	\bullet \bullet $Q=AU \ll 1$ $+AL \ll 2+Q$
2	AU AL CRU CRL	g(5) g(6) max_pad min_pad	\bullet \bullet $M=AU+CRL \ll 1$ $+M$	\bullet \bullet $N=AU+AL$ $+N$	\bullet \bullet $P=AU \ll 1$ $+AL+P$	\bullet \bullet $Q=AU \ll 1$ $+AL \ll 1+Q$
3	AU AL CRU CRL	g(7) g(8) max_pad min_pad	\bullet \bullet $M=CRL \ll 1$ $+CRL \ll 1+M$	\bullet \bullet $N=CRL \ll 1$ $+CRL \ll 1+N$	\bullet \bullet $P=AU+CRL$ $+P$	\bullet \bullet $Q=AU+AL$ $+Q$
4	AU AL CRU CRL	g(7) g(8) max_pad min_pad	Don't Care	Don't Care	$P=CRL+0$ $+P$	\bullet $Q=CRL+0$ $+Q$
5	AU AL CRU CRL	g(7) g(8) max_pad min_pad	Don't Care	Don't Care	Don't Care	Don't Care
6	AU AL CRU CRL	g(9) g(10) max_pad min_pad	\bullet \bullet $M=AU \ll 2$ $+AL \ll 1+8$	\bullet \bullet $N=AU \ll 1$ $+AL \ll 2+8$	\bullet \bullet $P=AU \ll 1$ $+AL \ll 1+8$	\bullet \bullet $Q=AU+AL \ll 1$ $+8$
7	AU AL CRU CRL	g(11) g(12) max_pad min_pad	\bullet \bullet $M=AU \ll 1$ $+AL+M$	\bullet \bullet $N=AU \ll 1$ $+AL \ll 1+N$	\bullet \bullet $P=AU \ll 2$ $+AL \ll 1+P$	\bullet \bullet $Q=AU \ll 1$ $+AL \ll 2+Q$
8	AU AL CRU CRL	g(13) g(14) max_pad min_pad	\bullet \bullet \bullet \bullet	\bullet \bullet \bullet \bullet	\bullet \bullet \bullet \bullet	\bullet \bullet \bullet \bullet
(Repeat the second cycle ~ the seventh cycle after CNT=8)						
			8 +min_pad +min_pad +min_pad<<1 +min_Pad<<1 +g(1)<<2 +g(2)<<1 +g(3)<<1 +g(4) +g(5)	8 +min_pad +min_pad +min_pad<<1 +g(1)<<1 +g(2)<<2 +g(3)<<1 +g(4)<<1 +g(5) +g(6)	8 +min_pad +min_pad +g(1)<<1 +g(2)<<1 +g(3)<<2 +g(4)<<1 +g(5)<<1 +g(6) +g(7)	8 +min_pad +g(1) +g(2)<<1 +g(3)<<1 +g(4)<<2 +g(5)<<1 +g(6)<<1 +g(7) +g(8)

Fig.3

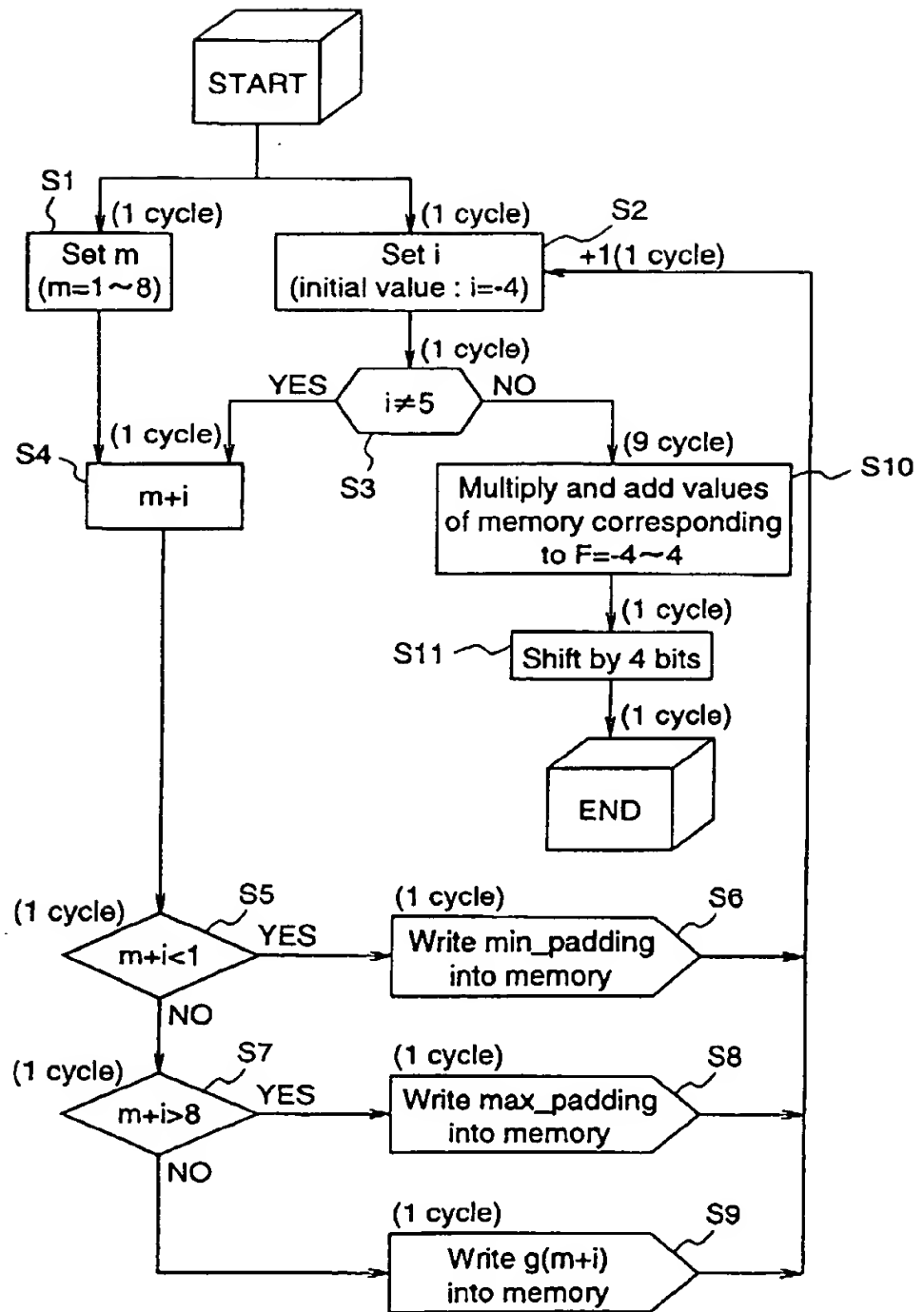


Fig.4

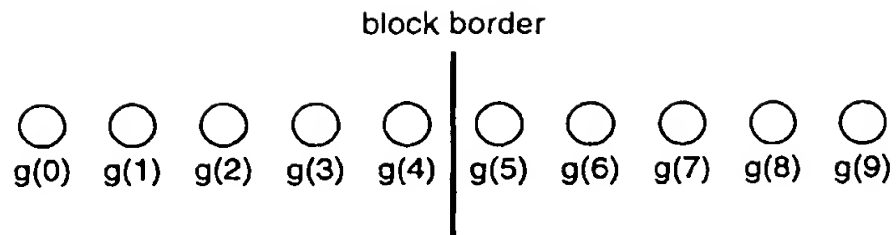


Fig.5

CNT	inputted register	stored data	m=5	m=6	m=7	m=8
0	AU	g(1)	•			
	AL	g(2)	•	•		
	CRU	max_pad				
	CRL	min_pad				
			$R=AU+AL$ +8	$S=AL$ +8	$T=0+0$ +T	$U=0+0$ +U
1	AU	g(3)	•	•	•	
	AL	g(4)	•	•	•	•
	CRU	max_pad				
	CRL	min_pad				
			$R=AU<<1$ +AL<<1+R	$S=AU+AL<<1$ +S	$T=AU+AL$ +8	$U=AL+0$ +8
2	AU	g(5)	•	•	•	•
	AL	g(6)	•	•	•	•
	CRU	max_pad				
	CRL	min_pad				
			$R=AU<<2$ +AL<<1+R	$S=AU<<1$ +AL<<2+S	$T=AU<<1$ +AL<<1+T	$U=AU+AL<<1$ +U
3	AU	g(7)	•	•	•	•
	AL	g(8)	•	•	•	•
	CRU	max_pad				
	CRL	min_pad				
			$R=AU<<1$ +AL+R	$S=AU<<1$ +AL<<1+S	$T=AU<<2$ +AL<<1+T	$U=AU<<1$ +AL<<2+U
4	AU	g(7)				
	AL	g(8)	•	•	•	•
	CRU	max_pad				
	CRL	min_pad				
			$R=CRU+0$ +R	$S=CRU+CRU$ +S	$T=CRU<<1$ +CRU+T	$U=CRU<<1$ +CRU<<1+U
5	AU	g(7)			•	•
	AL	g(8)				
	CRU	max_pad				
	CRL	min_pad				
			$R=0+0$ +R	$S=0+0$ +S	$T=CRU+0$ +T	$U=CRU+CRU$ +U
6	AU	g(9)	•	•		
	AL	g(10)	•	•		
	CRU	max_pad				
	CRL	min_pad				
			$R=AU+AL$ +8	$S=AL$ +8	$T=0+0$ +T	$U=0+0$ +U
7	AU	g(11)	•	•	•	•
	AL	g(12)	•	•	•	•
	CRU	max_pad				
	CRL	min_pad				
			$R=AU<<1$ +AL<<1+R	$S=AU+AL<<1$ +S	$T=AU+AL$ +8	$U=AL+0$ +8
8	AU	g(13)	•	•	•	•
	AL	g(14)	•	•	•	•
	CRU	max_pad				
	CRL	min_pad				
			(Repeat the second cycle ~ the seventh cycle after CNT=8)			
			8 +g(1) +g(2) +g(3)<<1 +g(4)<<1 +g(5)<<2 +g(6)<<1 +g(7)<<1 +g(8) +max_pad	8 +g(2) +g(3) +g(4)<<1 +g(5)<<1 +g(6)<<2 +g(7)<<1 +g(8)<<1 +max_pad +max_pad	8 +g(3) +g(4) +g(5)<<1 +g(6)<<1 +g(7)<<2 +g(8)<<1 +max_pad<<1 +max_pad +max_pad	8 +g(4) +g(5) +g(6)<<1 +g(7)<<1 +g(8)<<2 +max_pad<<1 +max_pad<<1 +max_pad +max_pad

Fig.6

CNT	OUTD (output selection)								output
	M	N	P	Q	R	S	T	U	
0									
	X	X	X	X	X	X	X	X	X
1									
	X	X	X	X	X	X	X	X	X
2									
	X	X	X	X	X	X	X	X	X
3									
	X	X	X	X	X	X	X	X	X
4									
	1 ●	2 ●	X	X	X	X	X	X	1,2
5									
	X	X	3 ●	4 ●	X	X	X	X	3,4
6									
	X	X	X	X	5 ●	6 ●	X	X	5,6
7									
	X	X	X	X	X	X	7 ●	8 ●	7,8
8									
	X	X	X	X	X	X	X	X	X
(Repeat the second cycle~ the seventh cycle after CNT=8)									

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